



**REQTIFY**  
**CONNECTING THE DOTS BETWEEN**  
**REQUIREMENTS MANAGEMENT,**  
**MODELING, SIMULATION, TESTS &**  
**CAD SOLUTIONS, TO ESTABLISH**  
**END-TO-END TRACEABILITY.**



**3DEXPERIENCE**

Reine GROS



# REINE GROS

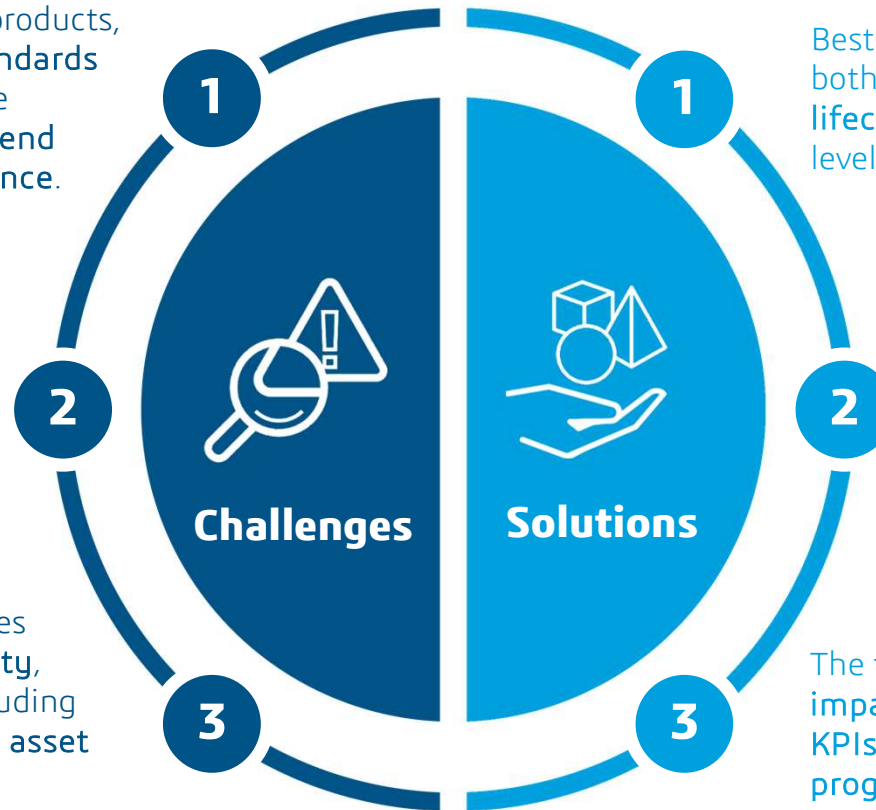
- I got my **Engineering degree in 2001** from ENSEM (Ecole Nationale Supérieure d'Electricité et de Mécanique) in Nancy, East of France.
- I begin as **application engineer** and then as **project manager** on **ControlBuild** tool for **Railway projects**.
- Since 2014, I work on **System Engineering** in **CATIA Cyber Systems** team.
- I'm specialized in **Requirement Engineering** around tools as **Reqtify** and **3DEXPERIENCE** platform apps such as **Requirement Management**, **System Traceability** and **Report Generation**.

# CHALLENGES VS REQIFY SOLUTIONS

The **growing complexity** of new products, along with the **ever-changing standards and regulations**, has increased the difficulty of implementing **end to end traceability** and ensuring **compliance**.

The **diversity of processes** and associated **IT tools** constitutes an obstacle to the **effective** implementation of **traceability**.

Limited **impact analysis** capabilities hinder the perception of **traceability**, limiting it to being seen as a concluding project task rather than a **valuable asset** for improving product quality and reliability.



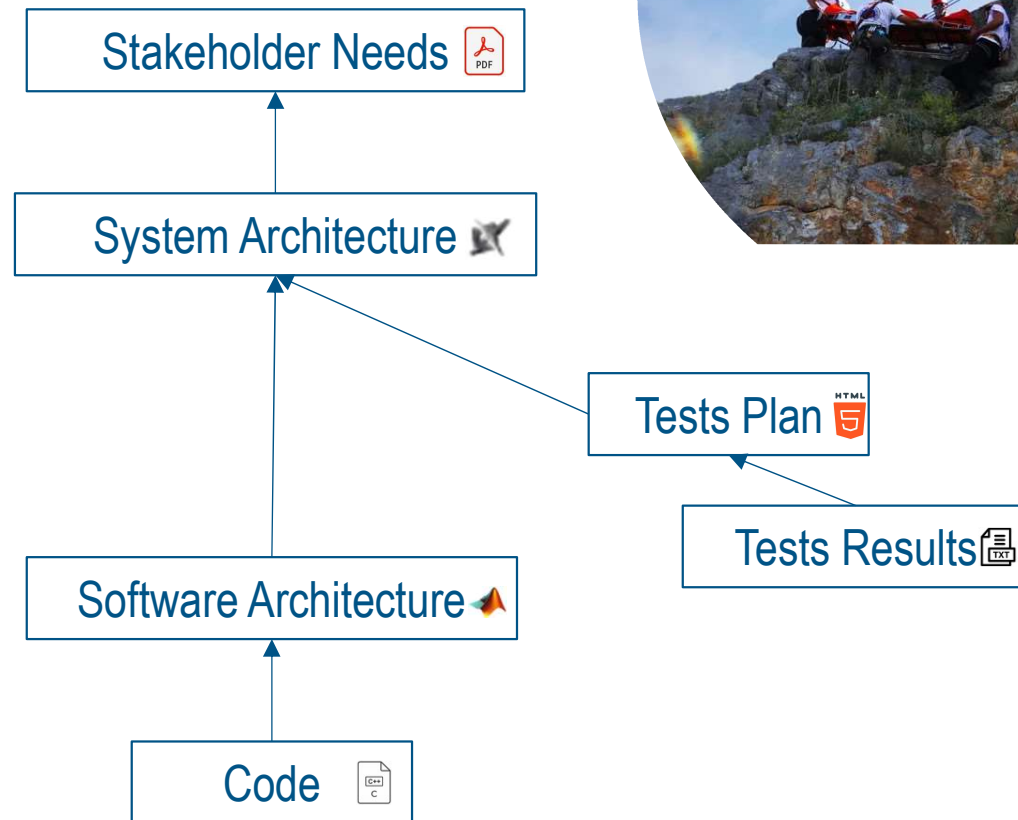
Best of breed **traceability solution** including both requirements management and **full lifecycle** traceability from program/product level to components parts.

A solution that can be seamlessly and **quickly implemented** with your **current processes and tools**, with **fast adoption** by engineering teams.

The tool incorporates **coverage and impact analysis features**, providing crucial KPIs to keep you informed about the progress of your program or project.

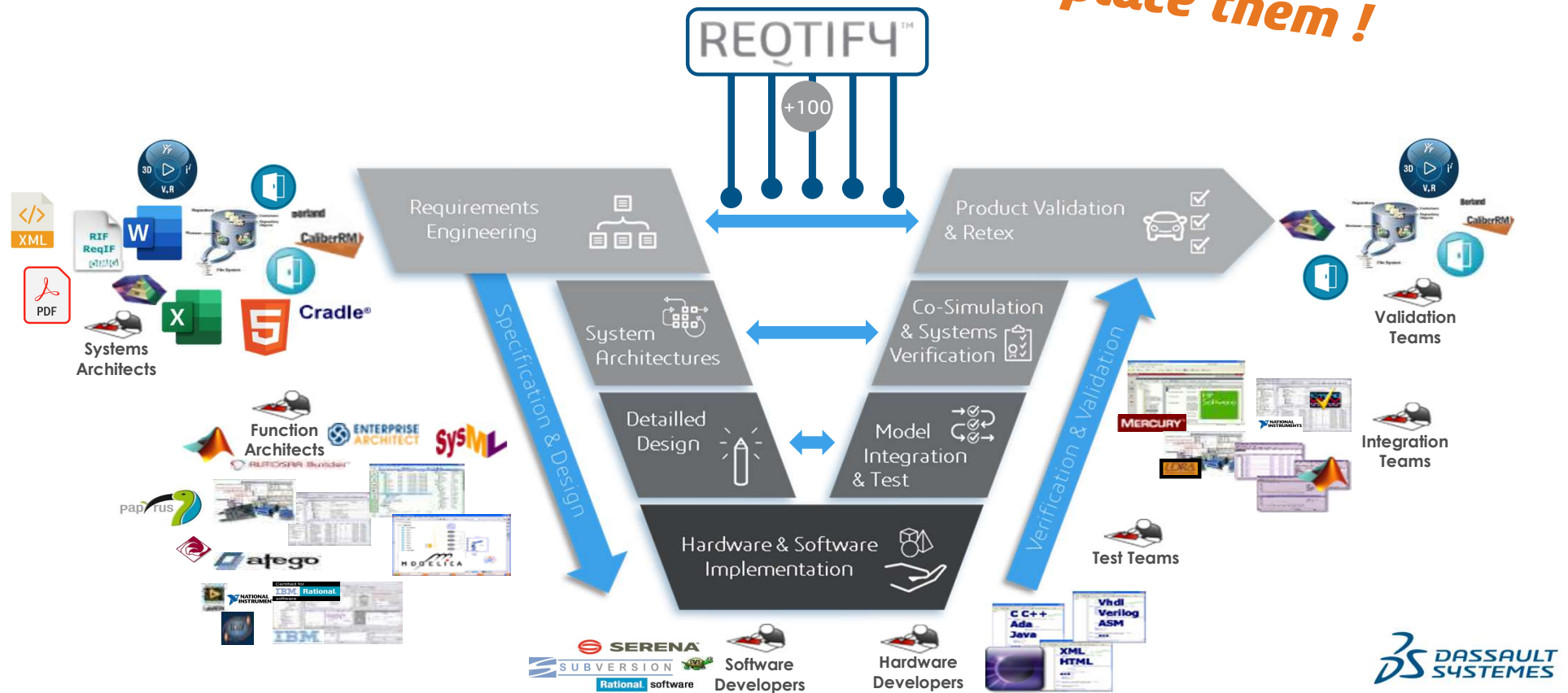
# SAFETY AND RESCUE USE CASE PRESENTATION

- How to manage traceability in such a project?
- How to synchronize Requirements or Needs into CATIA Magic when no DataHub solution is available ?
- What is the impact of a change in Stakeholder needs?
- Which element are impacted by a Failed Test?

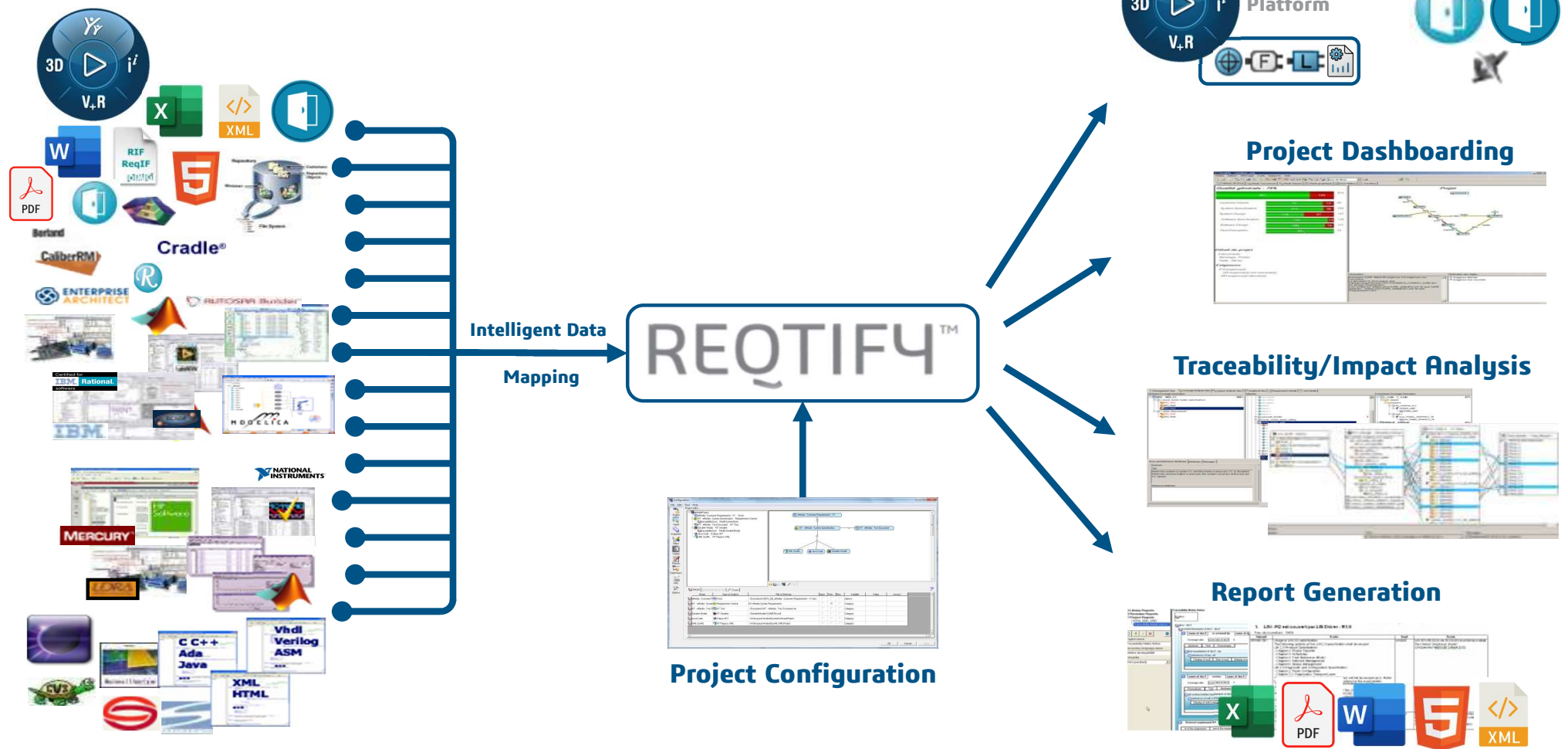


# THE SOLUTION

*Connect your tools ! Does not replace them !*



# HOW DOES IT WORK ?



\*Doors NG : Reqtify only supports links creation at the moment



# STAKEHOLDER NEEDS FOR SAR DRONE

Menu

Home

☆ STK Needs for SAR Dron... x

+ Create

All tools

Edit

Convert

E-Sign

Find text or tools

Q

Save

PDF

Stakeholder Needs for Search  
And Rescue Drone

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May, 2024

1. User Needs

STK-SAR-001 Search Pattern

The drone must be able to fly over the SAR zone by selected pattern.

#Criticality: Medium

STK-SAR-002 Self-Guided

Given the location, the drone must be able to reach the SAR zone unmanned.

#Criticality: High

STK-SAR-003 First Aid & Survival Kit

When found, a person in distress shall be provided with medicine, water, and some food.

#Criticality: High

STK-SAR-004 Climate

The drone must be able to fly in any weather conditions.

#Criticality: Medium

STK-SAR-005 Human Recognition

The drone must be able to recognize humans and distinguish them from other living things.

#Criticality: Low

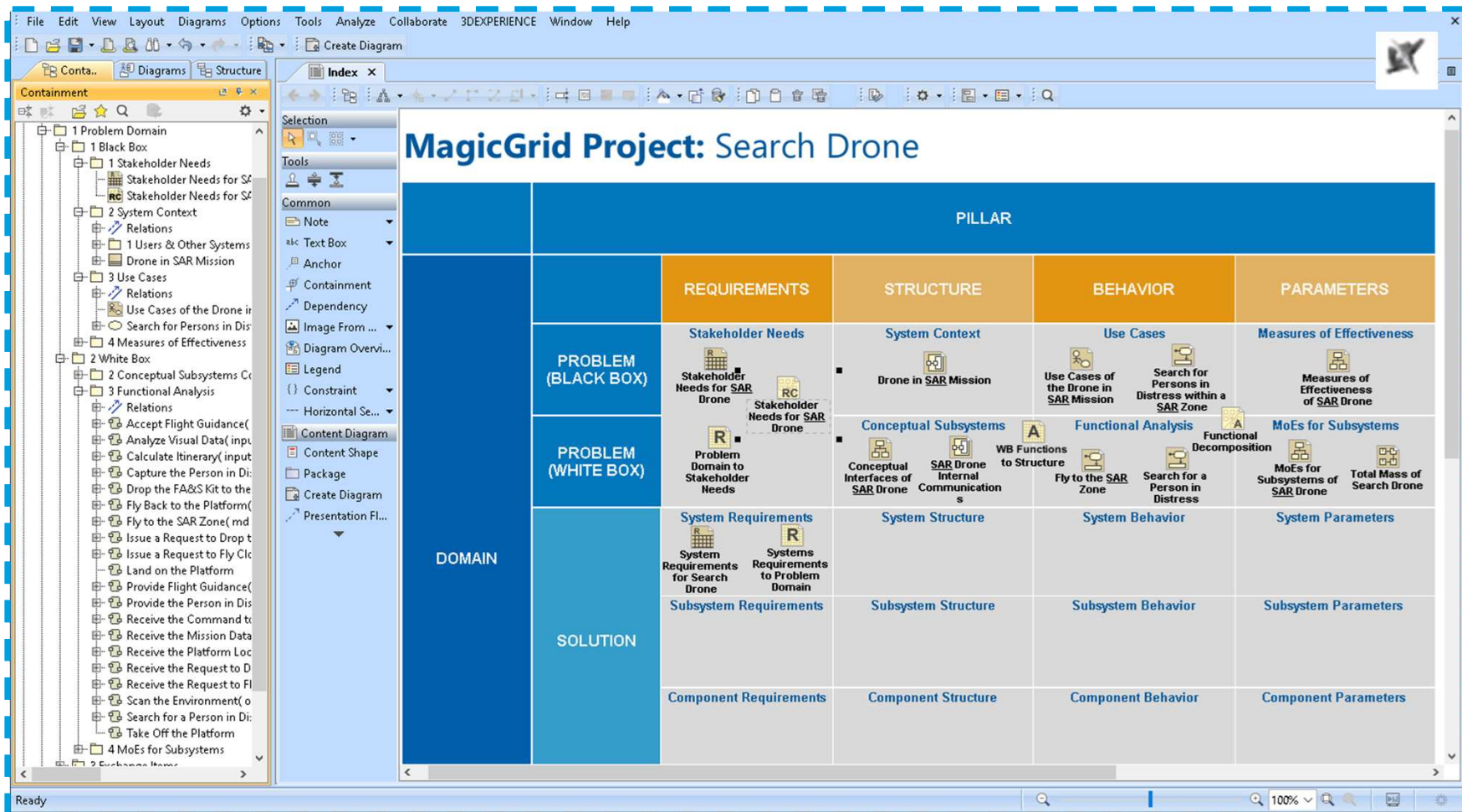
STK-SAR-006 Communication

The drone must be able to communicate with some mobile center (send its location, get control if needed, get the location for landing, provide the person in distress location).

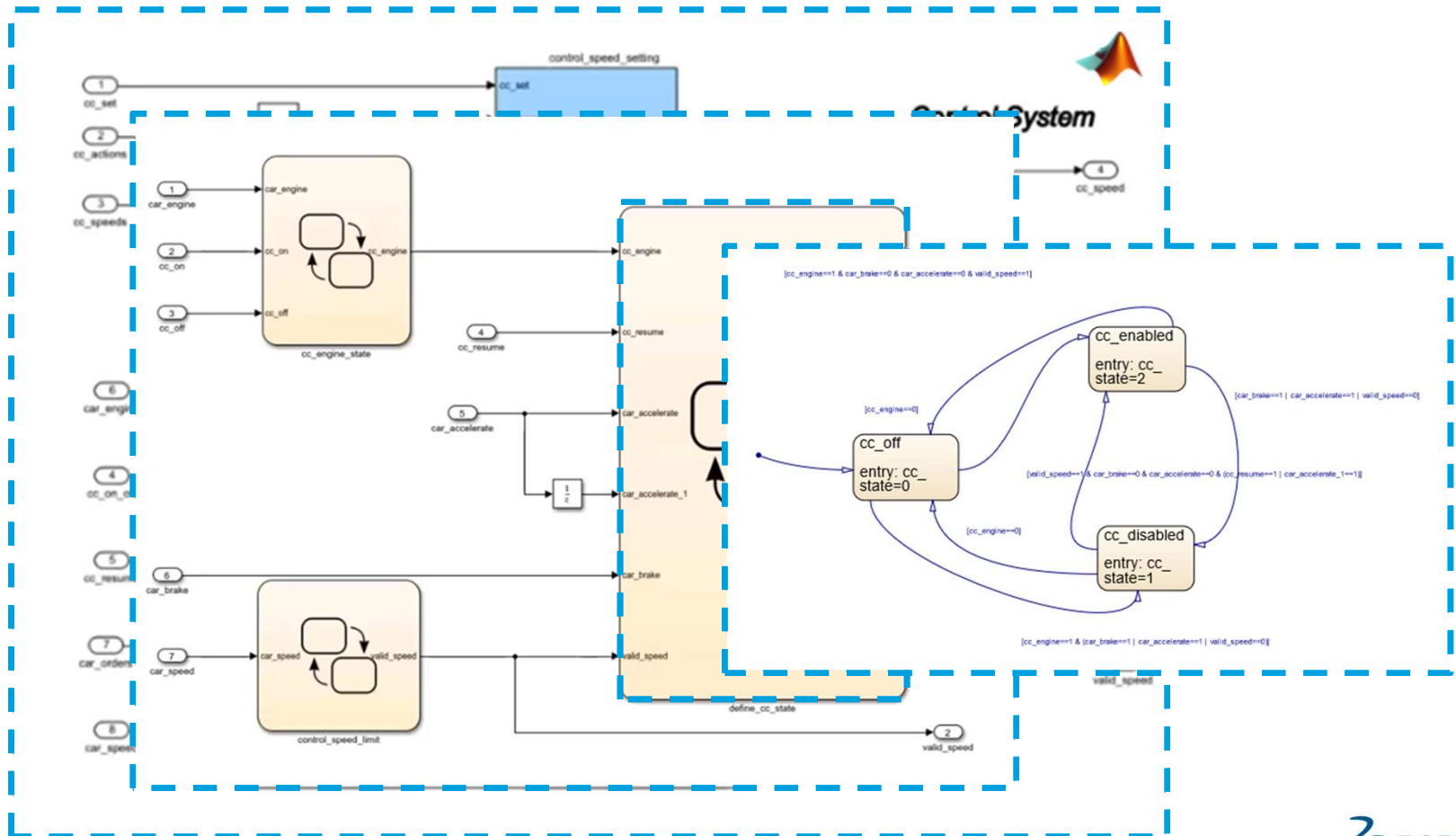
#Criticality: Low

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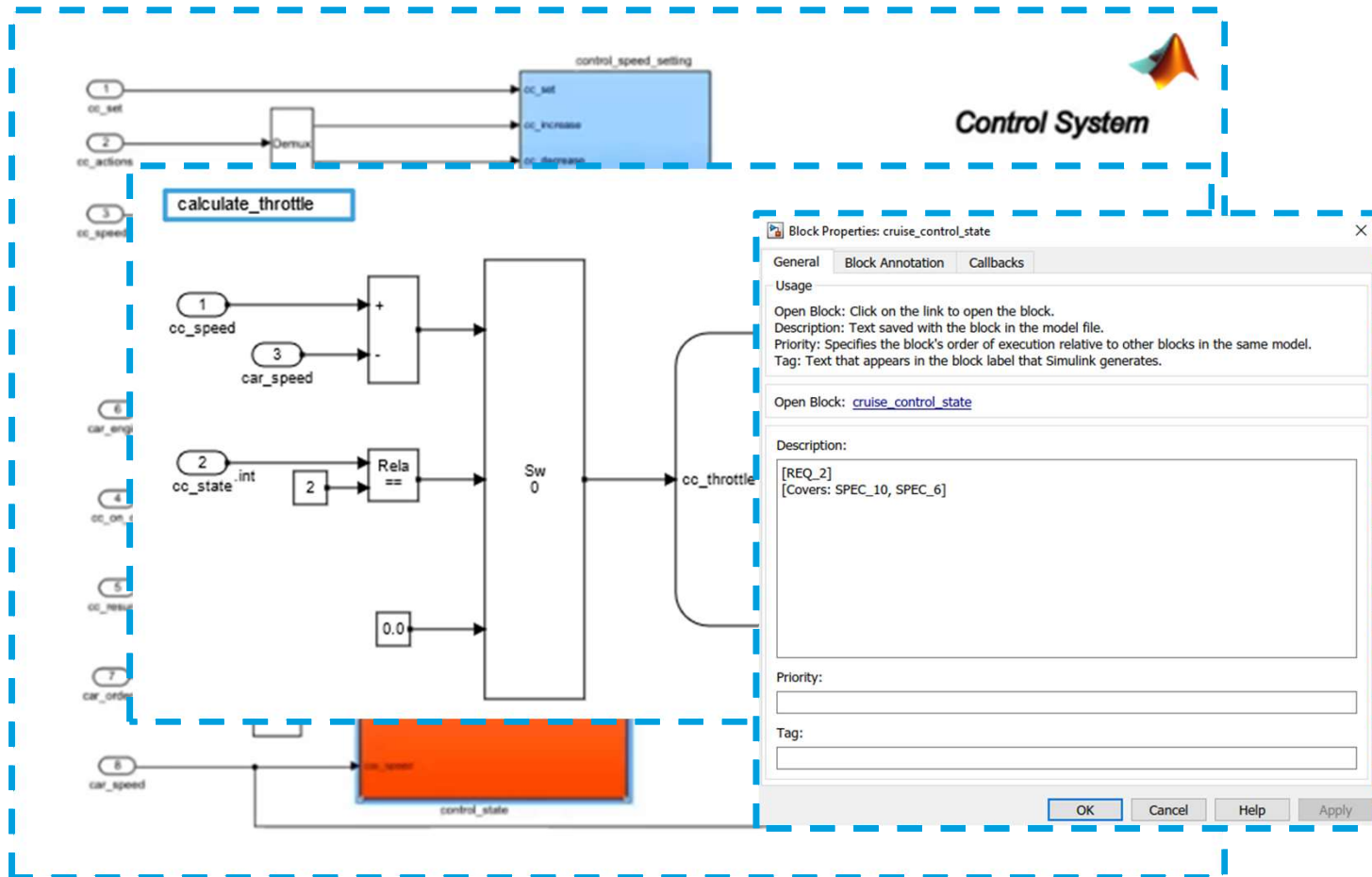
# SYSTEM ARCHITECTURE FOR SAR DRONE



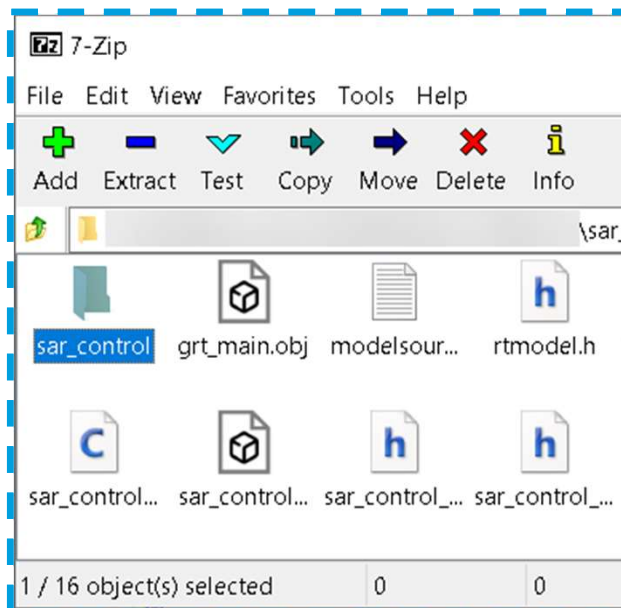




# SOFTWARE ARCHITECTURE FOR SAR DRONE



# CODE FOR SAR DRONE



```

1  /*
2  * Real-Time Workshop code generation for Simulink model "SAR_control_r13_v0.m
3  *
4  * Model Version                : 1.90
5  * Real-Time Workshop file version : 5.1 $Date: 2003/08/08 18:37:24 $
6  * Real-Time Workshop file generated on : Tue Jul 26 15:25:15 2005
7  * TLC version                  : 5.1 (Aug 8 2003)
8  * C source code generated on    : Tue Jul 26 15:25:15 2005
9  */
10
11 // Implements REQ_1
12
13 #include <math.h>
14 #include <string.h>
15 #include "SAR_control_r13_v0.h"
16 #include "SAR_control_r13_v0_private.h"
17
18 /* Block signals (auto storage) */
19 BlockIO rtB;
20
21 /* Block states (auto storage) */
22 D_Work rtDWork;
23
24 /* External inputs (root inport signals with auto storage) */
25 ExternalInputs rtU;
26
27 /* External output (root outports fed by signals with auto storage) */
28 ExternalOutputs rtY;
29
30 /* Parent Simstruct */
31 static rtModel_SAR_control_r13_v0 model_S;
32 rtModel_SAR_control_r13_v0 *const rtM_SAR_control_r13_v0 = &model_S;
33
34 /* Initial conditions for root system: '<Root>' */
35 void MdlInitialize(void)
36 {
37     // Implements REQ_4
38     /* Initialize code for chart: <S3>/cc_engine_state */
39
40     {
41         rtB.cc_engine = 0.0;
42     }
43 }

```



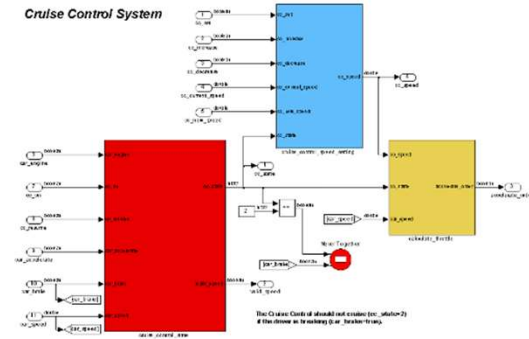
# TESTS PLAN FOR SAR DRONE

## Test Report SAR Controller System



### 1. TEST OF PROPERTY 1

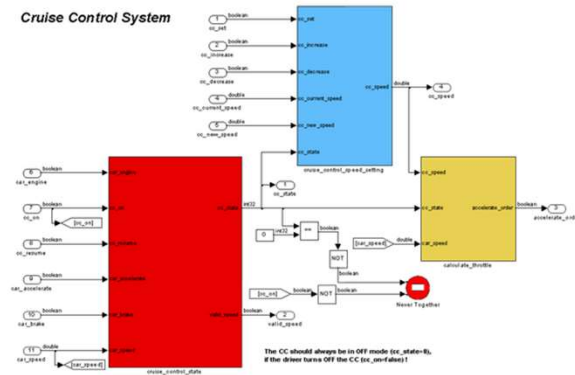
TESTProp1



Covered Requirements : SR-1, SR-3

### 2. TEST OF PROPERTY 2

TESTProp2



Covered Requirements : SR-2

# TEST RESULTS FOR SAR DRONE

```
SAR Tests Logs.txt - Notepad
File Edit Format View Help
=====
Verification report from XXX
Copyright 2023-2023 TransEDA Technology Ltd
version 2021.03(Build R7085)
=====

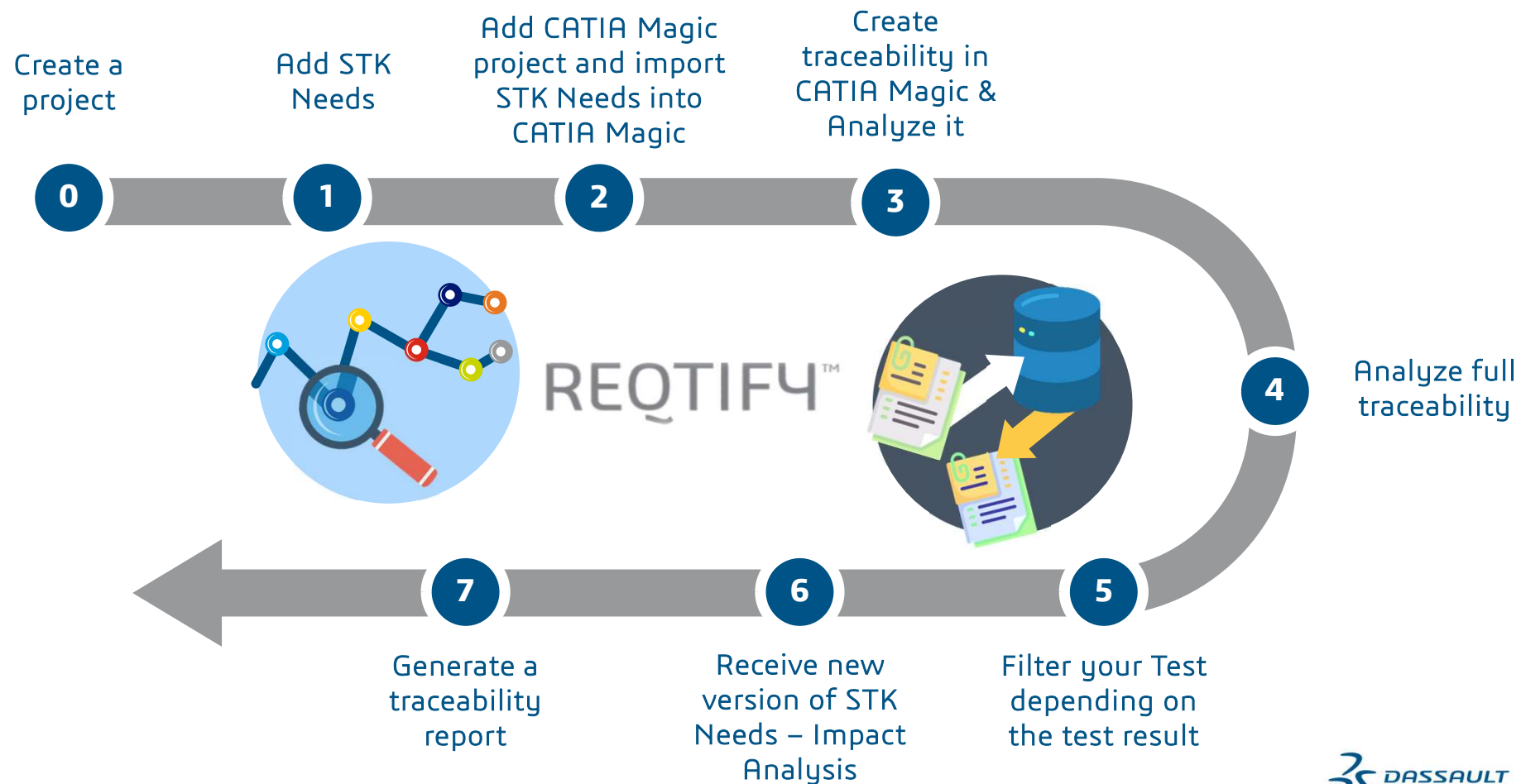
Coverage report for: Tests Log Use project
Generated on: Tue Jun 3 16:56:06 2023

===== Statement =====

TESTProp1 : Tue Jun 3 16:56:06 2023 duration 0:01
==>Result : OK
-----
TESTProp2 : Tue Jun 3 16:56:07 2023 duration 0:01
==>Result : OK
-----
TESTProp3 : Tue Jun 3 16:56:08 2023 duration 0:01
==>Result : KO *****
-----
TESTProp4 : Tue Jun 3 16:56:09 2023 duration 0:01
==>Result : KO *****
|
```



## DEMO SCENARIO



# CONCLUSION & TAKE AWAY

## CONCLUSION & TAKE AWAY

- ✓ Traceability along entire system lifecycle.
- ✓ **Im/Export Capabilities** for better collaboration.
- ✓ **Non intrusive tool** : users stay in their legacy authoring environment.
- ✓ **Openness** : more that 100 connectors to commercial tools and standard formats.
- ✓ **Flexibility** : adapts to your own process.
- ✓ **Quick and Easy implementation & adoption.**
- ✓ Fast ROI.
- ✓ Compliant with safety standards: ISO26262, ARP4754A, DO178B/C...





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